Abstract:

Introduction: Identify age in anthropology, forensic and verify the growth of children and adolescents is important. Age estimation method using teeth, is particularly valuable. This study sought to assess the accuracy of age estimation by the Kvaal's method using cone beam computed tomography (CBCT) scans of mandibular canine teeth in an Iranian population.

Materials and Methods: In this cross-validation study, information of 180 sample (95 Female and 85 Man) was collected from the files of patients presenting to RAD oral and maxillofacial radiology clinic. The parameters used in the Kvaal's method were measured in the mandibular canine teeth on CBCT scans of the patients.First, the regression formula suggested by Kvaal et al, was used for age estimation. Then we designed our own formula for age estimation in our Iranian population and the fitness of statistical model was assessed.

Results: The results showed that there was no significant relationship between estimated age of men using Kvaal's method and biological age. Also, the variables of root pulp length and root width in the middle region of the root are good predictors of age in men, and the variables of tooth length, root width in the CEJ region, root width in the midpoint between A and C, root width in the middle region of the root are good predictors of age in women.

Conclusion: The Kvaal's formula was not suitable for use in our Iranian population. We did not obtain suitable results with the use of our own designed regression formula either.

Keywords: Age Determination by Teeth; Cuspid; Cone-Beam Computed Tomography; Forensic Dentistry.